FAST UNALIGNED CACHE ACCESS SYSTEM AND METHOD

Klaus J. Oberlaender

ABSTRACT OF THE DISCLOSURE

A cache unit multiple memory towers, which can be independently addressed. Cache lines are divided among multiple towers. Furthermore, physical lines of the memory towers are shared by multiple cache lines. Because each tower can be addressed independently and the cache lines are split among the towers, unaligned cache access can be performed. Furthermore, power can be conserved because not all the memory towers of the cache unit needs to be activated during some memory access operations.